

MCP-1RB

GenCore version 5.1.4\_p5\_4578  
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OM protein - protein search, using sw model

Run on: May 19, 2003, 16:35:42 ; Search time 53.4605 Seconds  
(without alignments)  
897.302 Million cell updates/sec

Title: US-09-625-573-4  
Perfect score: 1900  
Sequence: 1-MLSTGRSREIRNFNSGEV.....DGVTSNTPSTGCEQVSAGL 360

Scoring table: BLOSUM62  
Gapop 10.0 , Gapext 0.5

Searched: 908470 seqs, 133250620 residues  
Total number of hits satisfying chosen parameters: 908470

Minimum DB seq length: 0  
Maximum DB seq length: 2000000000

Post-processing: Minimum Match 0%  
Maximum Match 100%  
Listing first 45 summaries

Database :			
A_Geneseq_101002.*			
1:	/SID22/gcgdata/geneseq/geneseq-emb1/AA1980.DAT.*		
2:	/SID22/gcgdata/geneseq/geneseq-emb1/AA1981.DAT.*		
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4:	/SID22/gcgdata/geneseq/geneseq-emb1/AA1983.DAT.*		
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8:	/SID22/gcgdata/geneseq/geneseq-emb1/AA1987.DAT.*		
9:	/SID22/gcgdata/geneseq/geneseq-emb1/AA1988.DAT.*		
10:	/SID22/gcgdata/geneseq/geneseq-emb1/AA1989.DAT.*		
11:	/SID22/gcgdata/geneseq/geneseq-emb1/AA1990.DAT.*		
12:	/SID22/gcgdata/geneseq/geneseq-emb1/AA1991.DAT.*		
13:	/SID22/gcgdata/geneseq/geneseq-emb1/AA1992.DAT.*		
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15:	/SID22/gcgdata/geneseq/geneseq-emb1/AA1994.DAT.*		
16:	/SID22/gcgdata/geneseq/geneseq-emb1/AA1995.DAT.*		
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19:	/SID22/gcgdata/geneseq/geneseq-emb1/AA1998.DAT.*		
20:	/SID22/gcgdata/geneseq/geneseq-emb1/AA1999.DAT.*		
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22:	/SID22/gcgdata/geneseq/geneseq-emb1/AA2001.DAT.*		
23:	/SID22/gcgdata/geneseq/geneseq-emb1/AA2002.DAT.*		

Pred. No. is the number of results predicted by chance to have a score greater than or equal to the score of the result being printed, and is derived by analysis of the total score distribution.

SUMMARIES

Result No.	Query No.	Score	Match	Length	ID	Description
1	1900	100.0	360	16	AAR79166	Human monocyte che
2	1900	100.0	360	18	AAW35833	Human monocyte che
3	1900	100.0	360	22	AAW80108	Human CCR2b protei
4	1900	99.9	360	22	AAU07614	Human wild-type CC
5	1900	99.9	360	22	AAU07614	Human CCR2-641 pol
6	1894	99.7	360	22	ABB56340	Non-endogenous hum
7	1651	86.9	374	16	AAR79165	Human monocyte-che
8	1651.5	86.9	374	22	AAW80107	Human CCR2a protei
9	1473	77.5	329	22	AAW46859	Human MCP-1 recept
10	1386	72.9	354	19	AAW54037	Mouse CC-CR5 prot

11	1371	72.2	352	22	AAG79089	Amino acid sequenc
12	1364	71.8	352	18	AAW27407	Human CCR5. Homo
13	1364	71.8	352	18	AAW27123	Human chemokine re
14	1364	71.8	352	18	AAW27125	Macaque chemokine
15	1364	71.8	352	19	AAW23835	Human CC chemokine
16	1364	71.8	352	20	AAW88232	HIV-1 co-receptor
17	1364	71.8	352	22	AAW880111	Human CCR5 protein
18	1364	71.8	352	22	AAW82948	Human HIV-1 co-rec
19	1364	71.8	352	22	AAW83354	Human CCR5 protein
20	1364	71.8	352	22	AAE04321	Human chemokine re
21	1364	71.8	352	23	ABW08343	Human chemokine (C
22	1364	71.8	352	23	ABW52828	Human CC chemokine
23	1364	71.8	352	23	AAW52828	Fusion protein con
24	1359.5	71.6	371	19	AAW23834	Human CC chemokine
25	1358	71.5	352	22	ABB56342	Non-endogenous hum
26	1358	71.5	352	23	AAW52829	Human CCR5 Gln 55
27	1356	71.4	352	22	AAW07039	Human G-protein ch
28	1356	71.4	352	22	AAW07048	Human HDGNR10 prot
29	1356	71.4	352	22	AAW46858	Human G-protein ch
30	1356	71.4	352	23	AAU97152	Human G-protein ch
31	1355	71.3	352	18	AAW07602	Human G-protein ch
32	1355	71.3	352	21	AAW80128	Human G-protein ch
33	1355	71.3	352	22	AAE07037	Human G-protein ch
34	1355	71.3	352	22	AAE07046	Human G-protein ch
35	1355	71.3	352	23	AAU97150	Human chemokine re
36	1335.5	70.3	332	18	AAW26766	C-C chemokine rece
37	1036	54.5	355	15	AAW52749	Human MIP-1 alpha/R
38	1036	54.5	355	18	AAW26588	Human MIP-1 alpha/R
39	1036	54.5	355	18	AAW25751	Human CC-chemokine
40	1036	54.5	355	21	AAW20571	Rat CC chemokine r
41	995.5	52.4	355	18	AAW29179	Human C-C chemokin
42	958	50.4	355	19	AAW51744	CC-chemokine recep
43	951	50.1	355	17	AAW03376	Human C-C chemokin
44	951	50.1	355	18	AAW10100	Human C-C chemokin
45	951	50.1	355	23	ABB07733	Human C-C chemokin

ALIGNMENTS

RESULT 1	
AAW79166	AAW79166 standard; Protein: 360 AA.
ID	AAW79166
AC	AAW79166;
XX	29-DEC-1995 (first entry)
DE	Human monocyte chemoattractant protein-1 receptor MCP-1RB.
KW	Monocyte chemoattractant protein-1 receptor; MCP-1R; chemokine.
OS	Homo sapiens.
PH	Key
FT	Domain
FT	Label= transmembrane
FT	80..700
FT	Label= transmembrane
FT	115..136
FT	Label= transmembrane
FT	154..178
FT	Label= transmembrane
FT	204..231
FT	Label= transmembrane
FT	244..268
FT	Label= transmembrane
FT	295..313
FT	Label= transmembrane
FT	314..360
FT	Label= carboxyl tail
FT	1..48
FT	Label= extracellular



AAG80108  
ID AAG80108 standard; Protein; 360 AA.

XX AAG80108;

XX 17-JAN-2002 (first entry)

XX Human CCR2b protein.

XX Chemokine; tumour diagnosis; colorectal; prostatic; organ rejection;  
KW inflammation; autoimmune disease; metastasis; bronchial asthma; lupus;  
KW chronic bowel inflammation; rheumatoid arthritis; cytostatic;  
KW antiinflammatory; antiasthmatic; immunosuppressive; dermatological;  
KW antirheumatic; antiarthritic.

XX Homo sapiens.

XX WO200172830-A2.

XX 04-OCT-2001.

XX 02-APR-2001; 2001WO-EP03708.

XX 31-MAR-2000; 2000DE-1016013.

XX (IPFP-) IPF PHARM GMBH.

XX (FORS/) FORSMANN U.

XX Forssmann W, Adermann K, Heitland A, Spodsborg N;

XX WPI; 2001-626256/72.

XX Diagnostic agent containing two or more receptor-specific ligands,  
PT useful for detecting tumors, inflammation etc., also therapeutic use of  
PT ligand inhibitors

XX Disclosure; Page 9; 26pp; German.

XX This invention describes a novel diagnostic agent (A) comprising at least  
CC two different ligands (I) for receptors (II) that are implicated in  
CC disease. (A) are used for the diagnosis of tumors (especially colorectal  
CC or prostatic), organ rejection, inflammation and autoimmune diseases.  
CC Also inhibitors of (I) are used therapeutically against tumors (and their  
CC metastases), inflammation (particularly bronchial asthma or chronic bowel  
CC inflammation), or autoimmune diseases (rheumatoid arthritis or lupus).  
CC where the (cardio)vascular, lymphatic, respiratory, nervous, digestive,  
CC endocrine, motor or urogenital systems or skin are affected, and bone  
CC marrow diseases. The products of the invention are chemokine derivatives  
CC which have cytostatic, antiinflammatory, antiasthmatic,  
CC immunosuppressive, dermatological, antirheumatic, antiarthritic.  
CC Chemokines act on specific tumor and inflammatory cells through a  
CC constellation of chemokine receptors (CR), which control migration and  
CC proliferation of these cells. AAG80045-AAG80128 represent human chemokine  
CC fragments used to illustrate the method of the invention.

XX Sequence 360 AA;

Query Match 100.0%; Score 1900; DB 22; Length 360;  
Best Local Similarity 100.0%; Pred. No. 3.7e-211;  
Matches 360; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

QY 1 MLSTSRSRFIRNTNESGEVTTFFDYDYGAPCHKFDVKQIGQALLPPLYSLVFIFGVGN 60

DB 1 MLSTSRSRFIRNTNESGEVTTFFDYDYGAPCHKFDVKQIGQALLPPLYSLVFIFGVGN 60

QY 61 MLVLLILNKKLCLTDIYLLNLALISDLLFLITLPLWAHSAANWVFCNAMCKLFTGLY 120

DB 61 MLVLLILNKKLCLTDIYLLNLALISDLLFLITLPLWAHSAANWVFCNAMCKLFTGLY 120

QY 121 HIGVFGGIFILLTIDRYLAIVHAFKARTVTFGVVTSTVITLWVAVFASVPGIIFTK 180

DB 121 HIGVFGGIFILLTIDRYLAIVHAFKARTVTFGVVTSTVITLWVAVFASVPGIIFTK 180

QY 181 CQKEDSVYVCGPYFPRGNNFHTIMRNLTGLVLPLLMVICYSGLTKLLRCRNEKKRHR 240  
DB 181 CQKEDSVYVCGPYFPRGNNFHTIMRNLTGLVLPLLMVICYSGLTKLLRCRNEKKRHR 240  
QY 241 AVRVIETIMIVYFLFWTPYNIIVILLNTFOEFFGLSNCESTSQDQATQVTTGLMTHCCI 300  
DB 241 AVRVIETIMIVYFLFWTPYNIIVILLNTFOEFFGLSNCESTSQDQATQVTTGLMTHCCI 300  
QY 301 NPIIYAFVGGKFRYLSVFFRKKHITKRCCKQCPVYRETVDGVTSTNTPTSGEQEVSAGL 360  
DB 301 NPIIYAFVGGKFRYLSVFFRKKHITKRCCKQCPVYRETVDGVTSTNTPTSGEQEVSAGL 360

#### RESULT 4

AAU07614  
ID AAU07614 standard; Protein; 360 AA.

XX AAU07614;

XX 04-DEC-2001 (first entry)

XX Human wild-type CCR2-64V polypeptide.

XX Human; CCR2 receptor; CCR2-64V; CCR2-64V; gene therapy; atherosclerosis;  
KW single nucleotide polymorphism; hypercholesterolaemia.

XX Homo sapiens.

XX WO200162796-A1.

XX 30-AUG-2001.

XX 22-FEB-2001; 2001WO-GB00755.

XX 22-FEB-2000; 2000GB-0004183.

XX (SMIK ) SMITHKLINE BEECHAM PLC.

XX Valdes AM, Groot PHE, Spurr NK;

XX WPI; 2001-550086/61.

XX N-PSDB; AAS12140.

XX Diagnosing atherosclerosis or susceptibility to atherosclerosis in a  
PT subject, by determining a single nucleotide polymorphism in specific  
PT codon of a polynucleotide encoding human CCR2 receptor in genome of the  
PT subject

XX Claim 1; Page 21; 28pp; English.

XX The invention relates to diagnosing atherosclerosis (or susceptibility  
CC to) in a subject by determining expression or activity of the human  
CC CCR2-64V polypeptide (a polymorphic variant form of the human CCR2  
CC receptor) or the CCR2-64V polypeptide (human CCR2 receptor), by screening  
CC for a single nucleotide polymorphism in codon 64 of the polynucleotide  
CC encoding the CCR2 receptor. This results in production of CCR2-64V,  
CC whereby polymorphic variants are associated with a lower incidence of  
CC atherosclerosis. The presence or amount of CCR2-64V in a sample can  
CC also be analysed. The sequences of the invention can be used for  
CC predicting the response of a patient to drug treatment, for predicting  
CC the disease outcome in a patient and also for the production of a  
CC treatment for hypercholesterolaemia. The sequence represents the  
CC wild-type receptor polypeptide CCR2-64V.

XX Sequence 360 AA;

Query Match 100.0%; Score 1900; DB 22; Length 360;

Best Local Similarity 100.0%; Pred. No. 3.7e-211;

Matches 360; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

QY 1 MLSTSRSRFIRNTNESGEVTTFFDYDYGAPCHKFDVKQIGQALLPPLYSLVFIFGVGN 60

DB 1 MLSTSRSRFIRNTNESGEVTTFFDYDYGAPCHKFDVKQIGQALLPPLYSLVFIFGVGN 60

Handwritten signature and date 2003.

QY 61 MLVLLINCKKLCITDIYLLNLAISDLLFLITPLWAHSAANEVFGNAMCKLFTGLY 120  
 DB 61 MLVLLINCKKLCITDIYLLNLAISDLLFLITPLWAHSAANEVFGNAMCKLFTGLY 120  
 QY 121 HIGYFGGIFILLITIDRYLAIVHAFKARTVTFGVVTSVITLWVAFASVPGIIFTK 180  
 DB 121 HIGYFGGIFILLITIDRYLAIVHAFKARTVTFGVVTSVITLWVAFASVPGIIFTK 180  
 QY 181 COKEDSVYVCGPYFPRGWNFFHIMRNILGLVLPPLIMVICYSGILKTLRCRNEKKRHR 240  
 DB 181 COKEDSVYVCGPYFPRGWNFFHIMRNILGLVLPPLIMVICYSGILKTLRCRNEKKRHR 240  
 QY 241 AVRVIPTIMIVYFLEWTPYNNIVLLNTFQEFFGLSNCESTSQLDQAPQVTTETLGMTHCCI 300  
 DB 241 AVRVIPTIMIVYFLEWTPYNNIVLLNTFQEFFGLSNCESTSQLDQAPQVTTETLGMTHCCI 300  
 QY 301 NPIIYAFVGEKFRRLSVFRRKHITRFRCKQCPVFYRETVDGVTSTNTPSTGEOEVSAGL 360  
 DB 301 NPIIYAFVGEKFRRLSVFRRKHITRFRCKQCPVFYRETVDGVTSTNTPSTGEOEVSAGL 360

## RESULT 5

AAU07613  
 ID AAU07613 standard; Protein; 360 AA.

AC AAU07613;

DT 04-DEC-2001 (first entry)

DE Human CCR2-64I polymorphic variant polypeptide.

KW Human; CCR2 receptor; CCR2-64I; CCR2-64V; gene therapy; atherosclerosis;  
 single nucleotide polymorphism; hypercholesterolaemia.

OS Homo sapiens.

FH Key Location/Qualifiers  
 FT Misc-difference 64

FT /note= "Wild-type Val is replaced by Ile"

PN WO200162796-A1.

PD 30-AUG-2001.

PF 22-FEB-2001; 2001WO-GB00755.

PR 22-FEB-2000; 2000GB-0004183.

PS (SMK ) SMITHKLINE BEECHAM PLC.

PI Valdes AM, Groot PHE, Spurr NK;

DR WPI; 2001-550086/61.

DR N-PSDB; AAS12139.

XX Diagnosing atherosclerosis or susceptibility to atherosclerosis in a  
 subject, by determining a single nucleotide polymorphism in specific  
 codon of a polynucleotide encoding human CCR2 receptor in genome of the  
 subject.

PS Claim 1; Page 20; 28pp; English.

XX The invention relates to diagnosing atherosclerosis (or susceptibility  
 to) in a subject by determining expression or activity of the human  
 CCR2-64I polypeptide (a polymorphic variant form of the human CCR2  
 receptor) or the CCR2-64V polypeptide (human CCR2 receptor), by screening  
 for a single nucleotide polymorphism in codon 64 of the polynucleotide  
 encoding the CCR2 receptor. This results in production of CCR2-64I,  
 whereby polymorphic variants are associated with a lower incidence of  
 atherosclerosis. The presence or amount of CCR2-64I/V in a sample can  
 also be analysed. The sequences of the invention can be used for  
 predicting the response of a patient to drug treatment, for predicting

CC the disease outcome in a patient and also for the production of a  
 treatment for hypercholesterolaemia. The sequence represents the  
 CC polymorphic variant polypeptide CCR2-64I.

XX Sequence 360 AA;

QY Query Match 99.9%; Score 1899; DB 22; Length 360;  
 DB Best Local Similarity 99.7%; Pred. No. 4.8e-211;  
 Matches 359; Conservative 1; Mismatches 0; Indels 0; Gaps 0;

QY 1 MLSTSRSFIRNTNSESGETVTFDDYDYGAPCHKFDVKQIGAQLLPPLYSLVIFGFGVGN 60  
 DB 1 MLSTSRSFIRNTNSESGETVTFDDYDYGAPCHKFDVKQIGAQLLPPLYSLVIFGFGVGN 60

QY 61 MLVLLINCKKLCITDIYLLNLAISDLLFLITPLWAHSAANEVFGNAMCKLFTGLY 120  
 DB 61 MLVLLINCKKLCITDIYLLNLAISDLLFLITPLWAHSAANEVFGNAMCKLFTGLY 120

QY 121 HIGYFGGIFILLITIDRYLAIVHAFKARTVTFGVVTSVITLWVAFASVPGIIFTK 180  
 DB 121 HIGYFGGIFILLITIDRYLAIVHAFKARTVTFGVVTSVITLWVAFASVPGIIFTK 180

QY 181 COKEDSVYVCGPYFPRGWNFFHIMRNILGLVLPPLIMVICYSGILKTLRCRNEKKRHR 240  
 DB 181 COKEDSVYVCGPYFPRGWNFFHIMRNILGLVLPPLIMVICYSGILKTLRCRNEKKRHR 240

QY 241 AVRVIPTIMIVYFLEWTPYNNIVLLNTFQEFFGLSNCESTSQLDQAPQVTTETLGMTHCCI 300  
 DB 241 AVRVIPTIMIVYFLEWTPYNNIVLLNTFQEFFGLSNCESTSQLDQAPQVTTETLGMTHCCI 300

QY 301 NPIIYAFVGEKFRRLSVFRRKHITRFRCKQCPVFYRETVDGVTSTNTPSTGEOEVSAGL 360  
 DB 301 NPIIYAFVGEKFRRLSVFRRKHITRFRCKQCPVFYRETVDGVTSTNTPSTGEOEVSAGL 360

## RESULT 6

ABB56340

ID ABB56340 standard; Protein; 360 AA.

XX AC ABB56340;

DT 18-FEB-2002 (first entry)

DE Non-endogenous human GPCR protein, SEQ ID NO: 473.

XX Human; G protein-coupled receptor; GPCR; non-endogenous; mutant;  
 constitutively activated GPCR; agonist; disease.

XX Homo sapiens.

OS Synthetic.

PN WO200177172-A2.

XX -PD- -18-OCT-2001.

XX 05-APR-2001; 2001WO-US11098.

PF 07-APR-2000; 2000US-195747P.

PR (AREN-) ARENA PHARM INC.

PS Lehmann-Bruinsma K, Liaw CW, Lin I;

XX WPI; 2001-648759/74.

DR N-PSDB; ABI97976.

XX Identifying agonists of G protein-coupled receptors (GPCRs) for use in  
 disease treatment, comprises contacting candidate compounds with  
 PT versions of GPCRs.

XX Claim 1; Page 274-275; 394pp; English.

XX The invention relates to G protein-coupled receptors (GPCRs) for which

CC the endogenous ligand has been identified. Non-endogenous  
 CC constitutively activated versions of known GPCRs are used in the  
 CC invention for the direct identification of candidate compounds as  
 CC receptor agonists, inverse agonists or partial agonists. Such  
 CC agonists are useful as therapeutic agents for diseases or disorders  
 CC associated with GPCRs. The present sequence is a non-endogenous  
 CC version of a known human GPCR.

XX Sequence 360 AA;

Query Match 99.7%; Score 1894; DB 22; Length 360;  
 Best Local Similarity 99.7%; Pred. No. 1.8e-210;  
 Matches 359; Conservative 0; Mismatches 1; Indels 0; Gaps 0;

Qy 1 MLSTSRFIRNTNESGEVTTFFDYDYGAPCHKFDVKQIGQALLPPLSLVFIQFVGN 60  
 Db 1 MLSTSRFIRNTNESGEVTTFFDYDYGAPCHKFDVKQIGQALLPPLSLVFIQFVGN 60

Qy 61 MLVVLINCKKLCITDIYLLNLAISDLFLITPLWAHSAANEVFGNAMCKLFTGLY 120  
 Db 61 MLVVLINCKKLCITDIYLLNLAISDLFLITPLWAHSAANEVFGNAMCKLFTGLY 120

Qy 121 HIGYGGFFIILLIDRYLAIVHAFKARTVFGVTSVITLWVAVFASVPGIIFTK 180  
 Db 121 HIGYGGFFIILLIDRYLAIVHAFKARTVFGVTSVITLWVAVFASVPGIIFTK 180

Qy 181 CQKEDSVVCGPYFPRGWNNEFTIMRNILGLVPLIMVICYSGILKTLRCRNEKKRHR 240  
 Db 181 CQKEDSVVCGPYFPRGWNNEFTIMRNILGLVPLIMVICYSGILKTLRCRNEKKRHR 240

Qy 241 AVRVIITMIVYFLWTPYINIVILLNTFOEFGSLNCESTSLDQATQVETLGMTHCCI 300  
 Db 241 AKRVITMIVYFLWTPYINIVILLNTFOEFGSLNCESTSLDQATQVETLGMTHCCI 300

Qy 301 NPIYAFVGEKFRRLYSVFERKHITKRCQCPVYFRETVDGVTSTNTSTGQEVSA 360  
 Db 301 NPIYAFVGEKFRRLYSVFERKHITKRCQCPVYFRETVDGVTSTNTSTGQEVSA 360

RESULT 7

AAR79165  
 ID AAR79165 standard; Protein; 374 AA.

AC AAR79165;

XX 29-DEC-1995 (first entry)

XX Human monocyte chemoattractant protein-1 receptor MCP-1RA.

XX Monocyte chemoattractant protein-1 receptor; MCP-1R; chemokine.

XX Homo sapiens.

Key Location/Qualifiers  
 Domain 49...70  
 /label= transmembrane  
 Domain 80...700  
 /label= transmembrane  
 Domain 115...136  
 /label= transmembrane  
 Domain 154...178  
 /label= transmembrane  
 Domain 204...231  
 /label= transmembrane  
 Domain 244...268  
 /label= transmembrane  
 Domain 295...313  
 /label= transmembrane  
 Region 314...375  
 /label= transmembrane  
 Domain 1..48  
 /label= carboxyl tail  
 /label= extracellular

PN WO9519436-A.  
 XX 20-JUL-1995.  
 XX 11-JAN-1995; 95WO-US00476.  
 XX 13-JAN-1994; 94US-0182962.  
 XX (REGC ) UNIV CALIFORNIA.  
 XX Charo I, Coughlin S;  
 PI WPI; 1995-263866/34.  
 XX N-PSDB; AAQ96297.  
 XX DNA encoding monocyte chemo-attractant protein-1 receptor - used partic.  
 PT for identifying antagonists and for treating diseases characterised by  
 PT monocytic infiltrates  
 XX Claim 2; Fig 1; 84pp; English.

CC To identify and clone new members of the chemokine receptor gene  
 CC family, degenerate oligo primers were designed corresp. to the  
 CC conserved sequences R79167 in the second and R79168 in the third  
 CC transmembrane domains of the MIP-1alpha/RANTES receptor, the IL-8  
 CC receptors and the HUMSTRS orphan receptor (GenBank Accession #M99293.  
 CC The degenerate oligo incorporating EcoRI and XhoI sites at their 5'  
 CC ends are Q96299 and Q96300. Amplification of cDNA derived from MM6  
 CC cells with the primers yielded a number of PCR products. One cDNA  
 CC appeared to encode a novel protein. To obtain a full-length version  
 CC of this clone, a MM6 cDNA library was constructed in pPROG and probed  
 CC with the PCR product. A 2.1 kb cDNA clone was obtd. Analysis of  
 CC additional clones in the MM6 cDNA library revealed a second  
 CC sequence that was identical to the 2.1 kb cDNA sequence first obtd.  
 CC from the 5' UTR through the putative seventh transmembrane domain  
 CC but contained a different cytoplasmic tail. The second sequence  
 CC appears to represent alternative splicing of the carboxyl-terminal  
 CC tail of the MCP-1R protein. The two sequences are denoted MCP-1RA  
 CC and MCP-1RB (see Q96297/R79165 & Q96298/R79166). Active mature  
 CC MCP-1RA has a predicted mol. wt. of about 42,000 daltons. MCP-1RB  
 CC has a mol. wt. of about 41,000 daltons.

XX Sequence 374 AA;

Query Match 86.9%; Score 1651.5; DB 16; Length 374;  
 Best Local Similarity 95.5%; Pred. No. 2.3e-182;  
 Matches 319; Conservative 3; Mismatches 5; Indels 7; Gaps 3;

Qy 1 MLSTSRFIRNTNESGEVTTFFDYDYGAPCHKFDVKQIGQALLPPLSLVFIQFVGN 60  
 Db 1 MLSTSRFIRNTNESGEVTTFFDYDYGAPCHKFDVKQIGQALLPPLSLVFIQFVGN 60

Qy 61 MLVVLINCKKLCITDIYLLNLAISDLFLITPLWAHSAANEVFGNAMCKLFTGLY 120  
 Db 61 MLVVLINCKKLCITDIYLLNLAISDLFLITPLWAHSAANEVFGNAMCKLFTGLY 120

Qy 121 HIGYGGFFIILLIDRYLAIVHAFKARTVFGVTSVITLWVAVFASVPGIIFTK 180  
 Db 121 HIGYGGFFIILLIDRYLAIVHAFKARTVFGVTSVITLWVAVFASVPGIIFTK 180

Qy 181 CQKEDSVVCGPYFPRGWNNEFTIMRNILGLVPLIMVICYSGILKTLRCRNEKKRHR 240  
 Db 181 CQKEDSVVCGPYFPRGWNNEFTIMRNILGLVPLIMVICYSGILKTLRCRNEKKRHR 240

Qy 241 AVRVIITMIVYFLWTPYINIVILLNTFOEFGSLNCESTSLDQATQVETLGMTHCCI 300  
 Db 241 AVRVIITMIVYFLWTPYINIVILLNTFOEFGSLNCESTSLDQATQVETLGMTHCCI 300

Qy 301 NPIYAFVGEKFRRLYSVFERKHITKRCQCPV 334  
 Db 301 NPIYAFVGEKFRRLYSVFERKHITKRCQCPV 334

## RESULT 8

AAG80107  
 ID AAG80107 standard; Protein; 374 AA.  
 AC AAG80107;  
 XX  
 XX 17-JAN-2002 (first entry)  
 DT  
 XX  
 DE Human CCR2a protein.  
 XX  
 XX Chemokine; tumour diagnosis; colorectal; prostatic; organ rejection;  
 KW inflammation; autoimmune disease; metastasis; bronchial asthma; lupus;  
 KW chronic bowel inflammation; rheumatoid arthritis; cytostatic;  
 KW antiinflammatory; antiasthmatic; immunosuppressive; dermatological;  
 KW antirheumatic; antiarthritic.  
 XX  
 OS Homo sapiens.  
 XX  
 PN WO200172830-A2.  
 XX  
 XX 04-OCT-2001.  
 PF 02-APR-2001; 2001WO-EP03708.  
 XX  
 PR 31-MAR-2000; 2000DE-1016013.  
 XX  
 PA (IPFP-) IPF PHARM GMBH.  
 PA (FORS/) FORSSMANN U.  
 XX  
 PI Forssmann W, Adermann K, Heitland A, Spodsborg N;  
 XX  
 DR WPI; 2001-626256/72.  
 XX  
 PT Diagnostic agent containing two or more receptor-specific ligands,  
 PT useful for detecting tumors, inflammation etc., also therapeutic use of  
 PT ligand inhibitors  
 XX  
 PS Disclosure; Page 9; 26pp; German.

This invention describes a novel diagnostic agent (A) comprising at least two different ligands (I) for receptors (II) that are implicated in disease. (A) are used for the diagnosis of tumors (especially colorectal disease), organ rejection, inflammation and autoimmune diseases. Also inhibitors of (I) are used therapeutically against tumors (and their metastases), inflammation (particularly bronchial asthma or chronic bowel inflammation), or autoimmune diseases (rheumatoid arthritis or lupus), where the (cardio)vascular, lymphatic, respiratory, nervous, digestive, endocrine, motor or urogenital systems or skin are affected, and bone marrow diseases. The products of the invention are chemokine derivatives which have cytostatic, antiinflammatory, antiasthmatic, immunosuppressive, dermatological, antirheumatic, antiarthritic. Chemokines act on specific tumor and inflammatory cells through a constellation of chemokine receptors (CR), which control migration and proliferation of these cells. AAG80045-AAG80128 represent human chemokine fragments used to illustrate the method of the invention.

SQ Sequence 374 AA;

Query Match 86.9%; Score 1651.5; DB 22; Length 374;  
 Best Local Similarity 95.5%; Pred. No. 2.3e-182;  
 Matches 319; Conservative 3; Mismatches 5; Indels 7; Gaps 3;

QY 1 MLSTSRSRIRNTNESGEVTFDFDYCAPCHKFDVKQIGAQLLPPLYSLVIFGFGVN 60  
 DB 1 MLSTSRSRIRNTNESGEVTFDFDYCAPCHKFDVKQIGAQLLPPLYSLVIFGFGVN 60  
 QY 61 MLVLLINCKLKLTLDIYLLNLATSLLFLITLPLWAHSAANWVFGNACKLFTGLY 120  
 DB 61 MLVLLINCKLKLTLDIYLLNLATSLLFLITLPLWAHSAANWVFGNACKLFTGLY 120  
 QY 121 HIGYFGGIFFIILLTDRLYLAIVHAFALKARTVTEGVVTSVITLWVAFASVPGIIFTK 180  
 DB 121 HIGYFGGIFFIILLTDRLYLAIVHAFALKARTVTEGVVTSVITLWVAFASVPGIIFTK 180

QY 181 CQKEDSVYVCGPYFPRGWNNFHTIMRNILGLVLPPLIMVICYSGLKTLRCNEKKRHR 240  
 DB 181 CQKEDSVYVCGPYFPRGWNNFHTIMRNILGLVLPPLIMVICYSGLKTLRCNEKKRHR 240  
 QY 241 AVRVIETIMIVYFLEWTPYINIVILLNTFOEFFGLSNCESTSQLDQATQVETLGMTHCCI 300  
 DB 241 AVRVIETIMIVYFLEWTPYINIVILLNTFOEFFGLSNCESTSQLDQATQVETLGMTHCCI 300  
 QY 301 NPIYAFVGEKFRYLVYFRRKHITKRFCKQCPV 334  
 DB 301 NPIYAFVGEKFR---SLF---HIALG-CRIAPL 327  
 RESULT 9  
 AAB46859  
 ID AAB46859 standard; Protein; 329 AA.  
 XX  
 AC AAB46859;  
 XX  
 DT 16-AUG-2001 (updated)  
 DT 02-AUG-2001 (updated)  
 DT 04-MAY-2001 (first entry)  
 XX  
 DE Human MCP-1 receptor protein fragment.  
 XX  
 KW HDGNR10; human; G-protein chemokine receptor; antiinflammatory;  
 KW immunomodulatory; anticoagulant; antiallergic; immunosuppressive;  
 KW cytostatic; antiparasitic; antipsoriatic; antirheumatic; antiarthritic;  
 KW vasotropic; gene therapy; haematopoiesis; wound healing; coagulation;  
 KW angiogenesis; solid tumour; infection; leukemia; growth factor activity;  
 KW T-cell mediated autoimmune disease; psoriasis; allergy; atherogenesis;  
 KW anaphylaxis; malignancy; inflammation; histamine; IgE; sfilicosis; shock;  
 KW immunoglobulin E-mediated allergic reaction; rheumatoid arthritis;  
 KW prostaglandin-independent fever; bone marrow failure; sarcoidosis;  
 KW hyper-eosinophilic syndrome; vulnerability.  
 XX  
 OS Homo sapiens.  
 XX  
 PN US2001000241-A1.  
 XX  
 PD 12-APR-2001.  
 XX  
 PF 29-NOV-2000; 2000US-0725285.  
 XX  
 PR 06-JUN-1995; 95US-0466343.  
 PR 18-NOV-1998; 98US-0195662.  
 PR 25-JUN-1999; 99US-0339912.  
 XX  
 PA (LIYY/) LI Y.  
 PA (RUBE/) RUBEN S M.  
 XX  
 PI Li Y, Ruben SM;  
 XX  
 DR WPI; 2001-226317/23.  
 XX  
 PT New human G-protein chemokine receptor polypeptides and  
 PT polynucleotides, useful for identifying (ant)agonists to the G-protein  
 PT chemokine receptor  
 XX  
 PS Disclosure; Page 16-17; 22pp; English.  
 XX  
 CC This invention describes a novel receptor polypeptide (I) selected from  
 CC (i) a fully defined 329 amino acid sequence (II) fully disclosed in the  
 CC specification; and (ii) a polypeptide encoded by the cDNA contained in a  
 CC plasmid, and fragments, analogs and derivatives of the polypeptide. The  
 CC products of the invention have antiinflammatory, immunomodulatory,  
 CC anticoagulant, antiallergic, immunosuppressive, vulnerary, cytostatic,  
 CC antiparasitic, antipsoriatic, antirheumatic, antiarthritic and vasotropic  
 CC activity and can be used for gene therapy. The G-protein chemokine  
 CC receptors, HDGNR10, (I) are useful for screening for compounds which  
 CC activate or inhibit activation of (I). The products of the invention can  
 CC also be used for stimulating haematopoiesis, wound healing, coagulation,

CC angiogenesis, treating solid tumours, chronic infections, leukemia, and  
 CC T-cell mediated autoimmune diseases, parasitic infections, psoriasis, and  
 CC stimulating growth factor activity. HDGn10 is useful for treating  
 CC allergy, atherogenesis, anaphylaxis, malignancy, chronic and acute  
 CC inflammation, histamine and immunoglobulin E (IgE)-mediated allergic  
 CC reactions, prostaglandin-independent fever, bone marrow failure,  
 CC silicosis, sarcoidosis, rheumatoid arthritis, shock and  
 CC hyper-eosinophilic syndrome.  
 CC (N.B. This record was resubmitted to correct errors in the keyword  
 CC formatting).  
 XX  
 XX  
 SQ

Query Match 77.5%; Score 1473; DB 22; Length 329;  
 Best Local Similarity 90.5%; Pred. No. 9.3e-162;  
 Matches 287; Conservative 3; Mismatches 5; Indels 22; Gaps 4;  
 QY 18 EEVTFPDYDYGAPCHKFDVKQIGAQLLPPLYSLVFIFGVGNMLVLLINCKKLCIT 77  
 DB 1 EEVTFPDYDYGAPCHKFDVKQIGAQLLPPLYSLVFIFGVGNMLVLLINCKKLCIT 60  
 QY 78 DIYLLNLAIISDLLFLITPLMAHSAANEWVFGNAMCKLFTGLYHIGYFGGIFITLITID 137  
 DB 61 DIYLLNLAIISDLLFLITPLMAHSAANEWVFGNAMCKLFTGLYHI----- 105  
 QY 138 RYLAIVHAVFALKARTVTFGVVITWLVAVFASVPGIIFTKCKEDSVVCGPYPRG 197  
 DB 106 RYLAIVHAVFALKARTVTFGVVITWLVAVFASVPGIIFTKCKEDSVVCGPYPRG 165  
 QY 198 WNNFHTIMRNILGLVPLLMVICYSGILKTLRCRNEKRRHRAVRVFTIMVVFLEWT 257  
 DB 166 WNNFHTIMRNILGLVPLLMVICYSGILKTLRCRNEKRRHRAVRVFTIMVVFLEWT 225  
 QY 258 PYNIVILLNTQEFEGFLSNCESTSQLDQATQVETLGMTHCCINPIYAFVGEKFRVYLS 317  
 DB 226 PYNIVILLNTQEFEGFLSNCESTSQLDQATQVETLGMTHCCINPIYAFVGEKFRVYLS 282  
 QY 318 VFERKHITKCKQCPV 334  
 DB 283 LF---HIALG-CRIAPL 295

RESULT 10  
 AAW54037  
 ID AAW54037 standard; Protein; 354 AA.  
 XX  
 AC AAW54037;  
 XX  
 XX 06-AUG-1998 (first entry)  
 XX  
 DE Mouse CC-CCR5 protein.  
 XX  
 XX CC-CCR5; chemokine receptor; mouse; human; transgenic mouse;  
 KW HIV infection; T-cell mediated inflammation.  
 XX  
 OS Mus sp.  
 XX  
 PN EP834564-A2.  
 XX  
 PD 08-APR-1998.  
 XX  
 PF 03-OCT-1997; 97EP-0307823.  
 XX  
 XX 03-OCT-1996; 96US-0724984.  
 PR  
 XX (SMIK ) SMITHKLINE BEECHAM CORP.  
 PA  
 XX Bergsma DJ, Brawner ME, Shabon U;  
 PI  
 XX WPI; 1998-195463/18.  
 DR N-PSDB; AAV23989.  
 XX  
 PT New isolated mouse chemokine receptor, CC-CCR5 - used to develop

PT products for the study, diagnosis and treatment of HIV infection or  
 PT T-cell mediated inflammation  
 XX  
 PS Claim 11; Fig 1; 27pp; English.  
 XX  
 CC This sequence is the mouse CC-CCR5 protein, is encoded by the DNA of the  
 CC invention. CC-CCR5 is a chemokine receptor. Cells transfected with the  
 CC DNA can be cultivated and the expression product harvested. The DNA can  
 CC be knocked out and replaced with the human CC-CCR5 gene, creating  
 CC transgenic mice which can be used in the study of HIV infection or T-cell  
 CC mediated inflammation. Transgenic mice could also be used to screen for  
 CC human CC-CCR5 agonists or antagonists.  
 XX  
 SQ

Query Match 72.9%; Score 1386; DB 19; Length 354;  
 Best Local Similarity 74.0%; Pred. No. 1.2e-151;  
 Matches 259; Conservative 33; Mismatches 52; Indels 6; Gaps 2;  
 QY 17 GEEVTFPDYDYG--APCHKFDVKQIGAQLLPPLYSLVFIFGVGNMLVLLINCKKLIK 74  
 DB 5 GSVPTIYDIDYGSAPCOKINVKQIAAQLLPPLYSLVFIFGVGNMLVLLINCKKLIK 64  
 QY 75 CLTDIYLLNLAIISDLLFLITPLMAHSAANEWVFGNAMCKLFTGLYHIGYFGGIFITLIL 134  
 DB 65 SVTDIYLLNLAIISDLLFLITPLFWAHYAANEWIFGNIMCKVFTGYHIGYFGGIFITLIL 124  
 QY 135 TIDRYLAIVHAVFALKARTVTFGVVITWLVAVFASVPGIIFTKCKEDSVVCGPYPRG 194  
 DB 125 TIDRYLAIVHAVFALKARTVTFGVVITWLVAVFASVPGIIFTKCKEDSVVCGPYPRG 184  
 QY 195 PRG----WNNFHTIMRNILGLVPLLMVICYSGILKTLRCRNEKRRHRAVRVFTIMI 250  
 DB 185 PHTQYHFNKSFQTLKMWILSLILPLLMVICYSGILKTLRCRNEKRRHRAVRVFTIMI 244  
 QY 251 VYFLEWTPYNIIVILLNTQEFEGFLSNCESTSQLDQATQVETLGMTHCCINPIYAFVGE 310  
 DB 245 VYFLEWTPYNIIVILLNTQEFEGFLSNCESTSQLDQATQVETLGMTHCCINPIYAFVGE 304  
 QY 311 KFRYSLSVFFERKHITKCKQCPVFRVETVDGVTSTNTPTSGTGEVSAAGL 360  
 DB 305 KFRYSLSVFFERKHITKCKQCPVFRVETVDGVTSTNTPTSGTGEVSAAGL 354

RESULT 11  
 AAG79089  
 ID AAG79089 standard; Protein; 352 AA.  
 XX  
 AC AAG79089;  
 XX  
 DT 10-DEC-2001 (first entry)  
 XX  
 DE Amino acid sequence of human CCR5 protein.  
 XX  
 KW Human; receptor; DC-SIGN; dendritic cell; T lymphocyte; HIV;  
 KW gp120; C-type lectin; ICAM3; HIV entry; T cell; macrophage;  
 KW HIV infection; CCR5.  
 XX  
 OS Homo sapiens.  
 XX  
 PN WO200164752-A2.  
 XX  
 PD 07-SEP-2001.  
 XX  
 PF 28-FEB-2001; 2001WO-US06322.  
 XX  
 XX 02-MAR-2000; 2000US-0517605.  
 PR  
 XX (UYNY ) UNIV NEW YORK STATE.  
 PA (UYNI-) UNIV NIJMEGEN.  
 XX  
 PI Littman DR, Kwon D, Van Kooyk Y, Geijtenbeek T;  
 XX



DR WPI; 2001-602565/68.  
 XX  
 CC An antibody for the treatment or prevention of HIV-infection comprises  
 PT a gp120 portion which binds to DC-SIGN or is exposed upon gp120 binding  
 PT of DC-SIGN due to concomitant conformational change  
 XX  
 PS Disclosure; Page 118-119; 131pp; English.  
 XX  
 CC The specification describes an antibody which is specific for an  
 CC antigenic fragment of gp120. This antigenic fragment binds to DC-SIGN  
 CC or is exposed upon gp120 binding of DC-SIGN due to concomitant  
 CC conformational change. DC-SIGN is a receptor that is specifically  
 CC expressed on dendritic cells and facilitates infection of T lymphocytes  
 CC with HIV. DC-SIGN is identical to a HIV-1 gp120-binding C-type lectin.  
 CC DC-SIGN binds ICAM-3 (which is expressed constitutively on T lymphocytes)  
 CC with high affinity. The antibody of the invention inhibits the trans  
 CC enhancement of HIV entry into a T cell or macrophage facilitated by  
 CC dendritic cells. The antibody is useful to treat or prevent HIV  
 CC infection. The present sequence represents a human CCR5 protein,  
 CC which is a translocation promoting agent that interacts with CD4.  
 CC This receptor functions in HIV-1 entry into cells.

SQ Sequence 352 AA;

Query Match 72.2%; Score 1371; DB 22; Length 352;

Best Local Similarity 76.2%; Pred. No. 6.6e-150;

Matches 259; Conservative 30; Mismatches 47; Indels 4; Gaps 1;

QY 25 DYDYGAPCHKFDVKQIGAOQLPPLYSILVIFGFGVGNMVLVILINCKKLCGLTDIYLNL 84  
 DB 13 DYTSEPCQKINVKQIAARLLPPLYSILVIFGFGVGNMVLVILINCKKLSMTDIYLLNL 72  
 QY 85 AISDLFLTLPLWAHSAANEWFGNAMCKLFTGLYHIGYFGGIFILLTIDRYLAIVH 144  
 DB 73 AISDLFLTLPLWAHSAANEWFGNAMCKLFTGLYHIGYFGGIFILLTIDRYLAIVH 132  
 QY 145 AVFALKARTVTEGVVTSVITLWVAVFASVPGIIFTCOKEDSVVCGPYPP---RGWNN 200  
 DB 133 AVFALKARTVTEGVVTSVITWVAVFASVPGIIFTRSQEGHLHYTCSSHPFPYQYQF 192  
 QY 201 FHTIMRNILGLVPLIMVICYSGILKTLRCRNEKKRRAVRVIFTIMIVYFLFWT 260  
 DB 193 FQTLKIVILGLVPLVIMVICYSGILKTLRCRNEKKRRAVRVIFTIMIVYFLFWAPN 252  
 QY 261 IVLLNLTFOEFFGLSNCESTSQLDQATQVTELTGMTHCCINPIIYAFVGEKFRYLSVF 320  
 DB 253 IVLLNLTFOEFFGLNCSNRLDQAMQVTELTGMTHCCINPIIYAFVGEKFRYLLVF 312  
 321 RKHITKRCKQCPVYRETVDGVTSTNTPTSGEQEVSAGL 360  
 313 QKHIAKRFCKCCSIFQOEAPERASSVYTRSTGQEISVGL 352

RESULT 12  
 AAW27407

ID AAW27407 standard; Protein; 352 AA.

XX AAW27407;

AC AAW27407;

DT 14-APR-1998 (first entry)

XX Human CCR5.

KW Human Cys-Cys chemokine receptor 5; CCR5;

KW human immunodeficiency virus; type 1; type 2; HIV-1; HIV-2;

KW diagnosis; treatment; prevention;

KW inflammatory disease; rheumatoid arthritis; glomerulonephritis;

KW asthma; idiopathic pulmonary fibrosis; psoriasis; viral infection;

KW cancer; atherosclerosis; autoimmune disorder.

OS Homo sapiens.

XX XX

PN WO9732019-A2.

XX 04-SEP-1997.  
 PD  
 XX 28-FEB-1997; 97WO-BE00023.  
 PF  
 XX 06-AUG-1996; 96EP-0870102.  
 PR  
 XX 01-MAR-1996; 96EP-0870021.  
 PR  
 XX (EURO-) EUROSREEN SA.  
 PA  
 XX Libert F, Parmentier M, Samson M, Vassart G;  
 PI  
 XX WPI; 1997-479829/44.  
 DR  
 XX N-PSDB; AAT90117.  
 XX  
 PT Active and inactive forms of human CC chemokine receptor CCR-5  
 PT useful to diagnose, prevent and/or treat inflammatory disorders,  
 PT autoimmune disease and viral infection  
 XX  
 PS Claim 4; Fig 1b-c; 94pp; English.

XX  
 CC The present sequence is human CC (Cys-Cys) chemokine receptor  
 CC 5 (CCR5), which is stimulated by MIP-1 alpha, MIP-1 beta or RANTES  
 CC chemokines, but not by monocyte chemoattractant protein 1 (MCP-1),  
 CC MCP-2, MCP-3, interleukin-8 (IL-8) or growth related gene product  
 CC alpha (GRO alpha) chemokines. Active CCR-5 is also a receptor of  
 CC human immunodeficiency virus type 1 or type 2 (HIV-1 or HIV-2).  
 CC CCR5 or its cDNA can be used to diagnose, treat and/or prevent  
 CC inflammatory diseases, e.g. rheumatoid arthritis,  
 CC glomerulonephritis, asthma, idiopathic pulmonary fibrosis and  
 CC psoriasis, viral infections, especially HIV-1 or HIV-2 infection,  
 CC cancer, atherosclerosis and autoimmune disorders.

XX Sequence 352 AA;

Query Match 71.8%; Score 1364; DB 18; Length 352;

Best Local Similarity 75.5%; Pred. No. 4.3e-149;

Matches 259; Conservative 32; Mismatches 46; Indels 6; Gaps 2;

QY 24 FDYDY--GAPCHKFDVKQIGAOQLPPLYSILVIFGFGVGNMVLVILINCKKLCGLTDIYL 81  
 DB 10 YDINYTSEPCQKINVKQIAARLLPPLYSILVIFGFGVGNMVLVILINCKKLSMTDIYL 69  
 QY 82 LNLAISDLFLTLPLWAHSAANEWFGNAMCKLFTGLYHIGYFGGIFILLTIDRYLA 141  
 DB 70 LNLAISDLFLTLPLWAHSAANEWFGNAMCKLFTGLYHIGYFGGIFILLTIDRYLA 129  
 QY 142 IVHAFVALKARTVTEGVVTSVITLWVAVFASVPGIIFTCOKEDSVVCGPYPP---RG 197  
 DB 130 VVHAFVALKARTVTEGVVTSVITWVAVFASVPGIIFTRSQEGHLHYTCSSHPFPYQY 189  
 QY 198 WNFHTIMRNILGLVPLIMVICYSGILKTLRCRNEKKRRAVRVIFTIMIVYFLFWT 257  
 DB 190 WNFHTIMRNILGLVPLIMVICYSGILKTLRCRNEKKRRAVRVIFTIMIVYFLFWA 249  
 QY 258 PYNIVILLNLTFOEFFGLSNCESTSQLDQATQVTELTGMTHCCINPIIYAFVGEKFRYLS 317  
 DB 250 PYNIVILLNLTFOEFFGLNCSNRLDQAMQVTELTGMTHCCINPIIYAFVGEKFRYLL 309  
 QY 318 VFERKHITKRCKQCPVYRETVDGVTSTNTPTSGEQEVSAGL 360  
 DB 310 VFERKHITKRCKQCPVYRETVDGVTSTNTPTSGEQEVSAGL 352

RESULT 13

AAW27123

ID AAW27123 standard; Protein; 352 AA.

XX AAW27123;

XX AAW27123;

DT 14-DEC-1997 (first entry)

XX Human chemokine receptor 88C.



XX	Chemokine receptor 88C; atherosclerosis; rheumatoid arthritis;	
KW	tumour; asthma; viral infection; AIDS; inflammation;	
KW	autoimmune disease; therapy; diagnosis; leukocyte trafficking;	
KW	G protein coupled receptor; ligand; modulator; antibody; human.	
XX	Homo sapiens.	
OS		
XX	Key	Location/Qualifiers
XX	Domain	1..32
FT	Domain	/label= Extracellular_domain
FT	Domain	56..67
FT	Domain	/label= Intracellular_domain
FT	Domain	89..112
FT	Domain	/label= Extracellular_domain
FT	Domain	125..145
FT	Domain	/label= Intracellular_domain
FT	Domain	166..191
FT	Domain	/label= Extracellular_domain
FT	Domain	213..235
FT	Domain	/label= Intracellular_domain
FT	Domain	259..280
FT	Domain	/label= Extracellular_domain
FT	Domain	301..352
FT	Domain	/label= Intracellular_domain
XX		
XX	WO9722698-A2.	
PN		
XX	26-JUN-1997.	
PD		
XX	20-DEC-1996;	96WO-US20759.
PF		
XX	07-JUN-1996;	96US-0661393.
XX	20-DEC-1995;	95US-0575967.
PR		
XX	(ICOS-) ICOS CORP.	
PA		
XX	Gray PW, Raport CJ, Schweickart VL;	
PI		
XX	WPI; 1997-341689/31.	
DR		
DR	N-PSDB; AAT85161.	
XX	New nucleic acid encoding chemokine receptors 88-2B and 88C - used	
XX	to modulate leukocyte trafficking, e.g. for treatment of	
PT	inflammation, tumours, viral infections, autoimmune diseases, etc.	
FT		
XX	Claim 16; Page 47-48; 65pp; English.	
PS		
XX	This polypeptide sequence comprises novel human chemokine receptor	
XX	88C, a G protein coupled receptor that is involved in leukocyte	
CC	trafficking. Its amino sequence was deduced from a cDNA clone	
CC	(AAT85161) isolated from a macrophage library. It shows 62% identity	
CC	to CCCKR1. Chemokine receptor 88-2B (see AAW27124) has also been	
CC	identified. 88C and 88-2B receptors and their polypeptide fragments	
CC	can be produced in transformed host cells. The receptors, peptides	
CC	comprising one or more of the extracellular or intracellular	
CC	domains, and anti-receptor antibodies can be used to modulate	
CC	receptor activities, particularly ligand and G protein binding, and	
CC	are potentially useful in the treatment of	
CC	atherosclerosis, rheumatoid arthritis, tumours, asthma, viral	
CC	infection, AIDS, inflammatory conditions, pathological immune	
CC	response, abnormal haematopoietic processes etc.	
XX		
XX	Sequence 352 AA;	
SQ		
XX	Query Match	71.8%; Score 1364; DB 18; Length 352;
XX	Best Local Similarity	75.5%; Pred. No. 4.3e-149;
XX	Matches 259; Conservative	32; Mismatches 46; Indels 6; Gaps 2;
XX		
QY	24 FDYDY--GAPCHKEFDKQIGAOILLPPLYSLVIFFGVGNMLVLLINCKKRLCLTDIYL 81	
DB	10 YDINYTSEPCQKINVKQIAARLLPPLYSLVIFFGVGNMLVLLINCKKRLKSMTDIYL 69	

CC that produces an antibody that specifically binds to macaque 88C is  
 CC claimed.

SQ Sequence 352 AA;

Query Match 71.8%; Score 1364; DB 18; Length 352;  
 Best Local Similarity 75.5%; Pred. No. 4.3e-149;  
 Matches 260; Conservative 31; Mismatches 46; Indels 6; Gaps 2;

QY 24 FDYDY--GAPCHKFDVKQIGAOQLPPLYSLVFIFGVGNMVLVILINCKKLCITDIYL 81  
 Db 10 YDIDYTTSEPCQKINVKQIAARLLPPLYSLVFIFGVGNMVLVILINCKKLCITDIYL 69

QY 82 LNLAIISDLLFLITPLWAHSAANEWVFGNACKLFTGLYHIGYFGGIFILLTIDRYLA 141  
 Db 70 LNLAIISDLLFLITVPFWAHAAQWDFGNTMCQLLTGLYFIFGSGIFILLTIDRYLA 129

QY 142 IVHAVFALKARTVTGVTSTWLVAVFASVPGIIFTCQKEDSVYVCGPYFP---RG 197  
 Db 130 IVHAVFALKARTVTGVTSTWLVAVFASVPGIIFTRSQREGHLYTCSHFPSYQYF 189

QY 198 WNNFHTIMRNILGLVPLIMVICYSGILKTLRCRNEKKRRHRAVRVIFTIMIVYFLWT 257  
 Db 190 WNFQTLKAVILGLVPLVWVICYSGILKTLRCRNEKKRRHRAVRVIFTIMIVYFLWA 249

QY 258 PYNIVILLNTQEFGLSNCESTSLDQATQVTEITGLMTHCCINPIIYAFVGEKFRYLS 317  
 Db 250 PYNIVILLNTQEFGLNCCSSNRLDQAMQVTEITGLMTHCCINPIIYAFVGEKFRNYLL 309

QY 318 VFFRKHITKRCCKPCPVFYRETVDGVTSTNTPSTGEQEVSAGL 360  
 Db 310 VFFQKHIAKRCCKCSIFQOEAPERASSVYTRSTGEQEISVGL 352

## RESULT 15

AAW23835

ID AAW23835 standard; Protein; 352 AA.

AC AAW23835;

XX 08-JUN-1998 (first entry)

DE Human CC chemokine receptor 5 (CCR5).

KW CC chemokine receptor 5; CCR5; G-protein coupled receptor;  
 KW human immunodeficiency virus; HIV; CD4; AIDS; therapy;  
 KW transgenic animal.

XX Homo sapiens.

Key	Location/Qualifiers
Domain	29..55
Region	/label= I
Domain	/note= "transmembrane domain"
Region	109..120
Domain	/note= "extracellular loop-1 (Claim 19)"
Domain	104..126
Domain	/label= III
Domain	/note= "transmembrane domain"
Region	143..171
Region	/label= IV
Region	/note= "transmembrane domain"
Region	187..210
Region	/note= "extracellular loop-2 (Claim 19)"
Region	194..219
Region	/label= V
Region	/note= "transmembrane domain"
Region	238..258
Region	/label= VI
Region	/note= "transmembrane domain"
Region	261..276
Region	/note= "extracellular loop-3 (Claim 19)"
Region	277..300

FT /label= VII  
 FT /note= "transmembrane domain"

XX WO9745543-A2.

XX 04-DEC-1997.

XX 28-MAY-1997; 97WO-US09586.

XX 28-MAY-1996; 96US-0018508.

XX (USSH ) US DEPT HEALTH & HUMAN SERVICES.

XX Alkhatib G, Berger EA, Broder CC, Combadiere C;

XX Feng Y, Kennedy PE, Murphy PM;

XX WPI; 1998-032650/03.

XX N-PSDB; AAT76920.

XX CC chemokine receptor 5 polypeptide - used to inhibit membrane  
 fusion between HIV and a target cell

XX Claim 68; Fig 1C; 70pp; English.

This protein sequence comprises of a novel human macrophage-selective  
 CC chemokine receptor that has been designated CCR5. The sequence  
 was deduced from an isolated cDNA clone (see AAT76920). An Alai27Leu  
 variant (see W38340 of CCR5 was also identified. The susceptibility  
 of human macrophages to HIV infection depends on cell surface  
 expression of CD4 and CCR5. CCR5 is a member of the 7-transmembrane  
 superfamily of G-protein coupled cell surface molecules. It plays  
 an essential role in the membrane fusion step of infection by some  
 CC HIV isolates. The establishment of stable, non-human cell lines  
 CC and transgenic mammals having cells that coexpress human CD4 and  
 CCR5 provides valuable tools for research of HIV infection.  
 CC Antibodies that bind to CCR5, CCR5 variants, and CCR5-binding  
 CC agents capable of blocking membrane fusion between HIV and target  
 CC cells represent potential anti-HIV therapeutics for macrophage  
 CC tropic strains of HIV.

SQ Sequence 352 AA;

Query Match 71.8%; Score 1364; DB 19; Length 352;

Best Local Similarity 75.5%; Pred. No. 4.3e-149;

Matches 259; Conservative 32; Mismatches 46; Indels 6; Gaps 2;

QY 24 FDYDY--GAPCHKFDVKQIGAOQLPPLYSLVFIFGVGNMVLVILINCKKLCITDIYL 81  
 Db 10 YDIDYTTSEPCQKINVKQIAARLLPPLYSLVFIFGVGNMVLVILINCKKLCITDIYL 69

QY 82 LNLAIISDLLFLITPLWAHSAANEWVFGNACKLFTGLYHIGYFGGIFILLTIDRYLA 141  
 Db 70 LNLAIISDLLFLITVPFWAHAAQWDFGNTMCQLLTGLYFIFGSGIFILLTIDRYLA 129

QY 142 IVHAVFALKARTVTGVTSTWLVAVFASVPGIIFTCQKEDSVYVCGPYFP---RG 197  
 Db 130 IVHAVFALKARTVTGVTSTWLVAVFASVPGIIFTRSQREGHLYTCSHFPSYQYF 189

QY 198 WNNFHTIMRNILGLVPLIMVICYSGILKTLRCRNEKKRRHRAVRVIFTIMIVYFLWT 257  
 Db 190 WNFQTLKAVILGLVPLVWVICYSGILKTLRCRNEKKRRHRAVRVIFTIMIVYFLWA 249

QY 258 PYNIVILLNTQEFGLSNCESTSLDQATQVTEITGLMTHCCINPIIYAFVGEKFRYLS 317  
 Db 250 PYNIVILLNTQEFGLNCCSSNRLDQAMQVTEITGLMTHCCINPIIYAFVGEKFRNYLL 309

QY 318 VFFRKHITKRCCKPCPVFYRETVDGVTSTNTPSTGEQEVSAGL 360  
 Db 310 VFFQKHIAKRCCKCSIFQOEAPERASSVYTRSTGEQEISVGL 352

Search completed: May 19, 2003, 16:45:37  
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